

REMARKS

The Office Action of July 20, 2011 has been carefully studied. The following paragraphs correspond to the paragraphs of the Office Action:

First, Applicants acknowledge numbered paragraph 14 of the Office Action indicating the allowability of claims 5 and 22 because these claims recite novel catalysts over any of the prior art of record. In this connection, the catalysts of claim 5 are now incorporated into claim 1 and claim 10. In addition, individual species are presented in new claims 23 through 29, dependent on claims 1 and 10 respectively.

As for the other issues in the Office Action, they are discussed as follows:

Double Patenting

With respect to the non-statutory obviousness-type double patenting rejection of claims 1, 5, 15-18 and 22 over U.S. 7,151,187 and claims 1, 5 and 15-18 over U.S. Patent 7,592,470, both rejections being in view of U.S. Patent application 10/329,322, Applicants have not reviewed these rejections for correctness, but instead enclose a terminal disclaimer which covers both patents. Consequently, Applicants do not necessarily acquiesce to the rationale for the double patenting rejections and reserve the right to comment at a later date if ever necessary.

Claim Rejections – 35 U.S.C. 112

Claim 21 which was dependent on claim 16 is now dependent on claim 11, and thereby avoids the rejection.

Claim Rejections – 35 U.S.C. 103

Inasmuch as numbered paragraph 14 of the Office Action states that claim 5 recites heterogeneous catalysts that are not cut by the prior art of record, and such catalysts are incorporated into claims 1 and 10, it follows that said claims and all claims dependent thereon are also allowable. Also, since the newly added claims are merely species of the catalysts recited in claims 1 and 10, these claims are also allowable.

Applicants also acknowledge numbered paragraph 15 of the Office Action which withdraws the former rejection of claims 1-5, 6-8 and 16-20 under 35 U.S.C. 103(a) as being unpatentable over Delgado (U.S. Publication 2003/0167681) in view of English abstract of

Hillion (FR 2855519). Thus, all rejections predicated on these two references such as claim 15 must also be withdrawn. Thus, the following discussion of the invention is provided as additional but not necessary distinguishing comments, and the Examiner may wish to terminate the study of these remarks at this point.

In any case, a member of the assignee patent department has provided the following cogent discussion, edited in part by the undersigned.

An object of the present invention is to provide a process for producing 2 families of biofuels from triglycerides in which the first step of transesterification produces esters of fatty acids usable as biofuel and glycerol being sufficiently pure so that it can be transformed into ethers and/or acetals yielding respectively glycerol ethers and glycerol acetals as second biofuel family.

This is achieved by the use of specific heterogeneous catalyst as defined in claim 1 allowing the production of very pure glycerin that can be transformed in the succeeding etherification and/or acetalization steps with a simple purification step of a vacuum treatment (requiring no washing) the resultant glycerin being termed resultant vacuum treated crude glycerol in the claim.

Bradin discloses a process for producing biofuels including a transesterification step using homogeneous catalyst and an etherification step of the glycerol produced. Bradin does not however disclose the use of heterogeneous catalyst, nor does it teach a vacuum treatment to remove the alcohol.

The catalysts used in Hillion are different from the ones claimed. Bornay, as Hillion, is not of any help either, since it discloses the same catalysts. Delgado Puche uses homogeneous catalysts and Nakaguchi is not even related to transesterification processes at all.

In view of the above remarks, the amendments to the claims and the submission of the terminal disclaimer, favorable reconsideration is courteously requested. If there are any residual issues which can be expeditiously resolved by a telephone conference, the Examiner is courteously requested to telephone Counsel at the number indicated below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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Attorney Docket No.: PET-2271
Date: September 28, 2011